



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBE105-14181W4-11
Job Sheet 200893

POSITIVE RECALL

EFFECTIVE 19.11.15 **AUTH** DAS

RELEASED PD **DATE** 19.11.29

*missing mtl. cents DOH800 14901
ok to release*

Part No: RBE105-14181W4-11

Job Qty: 5 pcs

Part Name: Puller



Part Weight: 0 lbs

Status: New

Job Created: 9/18/19

Job Tracking No:

Due Date: 11/7/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Priority: Medium

Note: DWG RBE105-14181W4 Rev.C IPP Rev. A 19.01.11 New issue DP Verify DD/IPP Rev. B 19.09.09 drawing revision DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup Hrs	Run Hrs		
100	NV5000 - 1	5 pcs	11/7/19	11/7/19	1.00	10.00	NV5000 - 1 NV5000 - 2	<i>OK J.C.L.</i>
110	QC 2	5 pcs	11/7/19	11/7/19	0.00	0.00	QC 2 - 1 QC 2 - 12 QC 2 - 14 QC 2 - 17 QC 2 - 19 QC 2 - 2 QC 2 - 20 QC 2 - 22 QC 2 - 23 QC 2 - 25 QC 2 - 32 QC 2 - 33 QC 2 - 35 QC 2 - 39 QC 2 - 4 QC 2 - 40 QC 2 - 44 QC 2 - 45 QC 2 - 48 QC 2 - 49 QC 2 - 50 QC 2 - 51 QC 2 - 52 QC 2 - 57 QC 2 - 62 QC 2 - 63 QC 2 - 8 QC 2 - 66	<i>J.C.L. 19-11-18</i>



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S232741



Part: RBE105-14181W4-11

Job No: 200893

Serial No/Batch: S232741

Revision: C

Inspector:

Exp Date:

Instructions:

Date: 11/18/19

Plex 9/18/19 1:42 PM Dart.lajeunesse.marie

9/18/2019

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

120 QC 8	5 pcs	11/7/19	0.00 0.00	QC 2 - 64	
				QC 2 - 65	
				QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	
				QC 8 - 12	
				QC 8 - 14	
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	
				QC 8 - 58	
				QC 8 - 8	
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 67	
				QC 8 - 1 (A)	
				QC 8 - 47	
				QC 8 - 40	
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
				QC 8 - 76	
130 Outsource - 12 - Black Oxide	5 pcs	11/7/19		GRO002-VC	19/11/19
140 Packaging 2-1 - Receive - B4B	5 pcs	11/7/19	0.00 0.00	Packaging 2 - 1 - B4B	
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	

Plex 9/18/19 1:42 PM Dart.lajeunesse.marie

9/18/2019

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

150 QC 6	5 pcs	11/7/19	0.00	0.00	QC 6 - 9	
 <i>waiting for mat certs see Pat D.</i>					QC 6 - 68	DA:
					QC 6 - 61	40
					QC 6 - 40	NOV 29 2019
					QC 6 - 81	2-89
160 Packaging 3-1 - Stock - B4B	5 pcs	11/7/19	0.00	0.00	Packaging 3 - 1 - B4B	
<i>9-89</i> <i>19.11.29</i>					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	DAS
					Packaging 3 - 8 - B4B	28
					Packaging 3 - 9 - B4B	9-89
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	DAS
170 QC 21 - SA	5 pcs	11/7/19	0.00	0.00	QC 21 - SA - 21	21
					QC 21 - SA - 70	DEC 02 2019

Part Op 100 - 1-Machine as per folio FC642 FOLIO REV: AA DWG REV: C 2-Deburr 3-Apply LPS-3 to
 Descriptions: ALL steel parts
 110 - QC2- Inspect parts off machine FAI/FAIB
 120 - QC8- Inspect parts - second check
 130 - -Issue P/O: 45/62 -Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. -Material type; 4140 -Certificate of Conformity is required
 140 - (Receive & Inspect for Damage & Mat'l Certs) Certificate of Conformity is required
 150 - QC6- All purchased or subcontracted products
 160 - Identify as per dwg & Stock Location: _____
 170 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4140N-B1-500X1-5000	4140 Steel Bar 1.50 X 1.50	2,3000 ft (.46 ea)	100-NV5000 - 1	5 232146
<i>MT-4140-B-1.500X1.500</i> <i>CL OCT 25 2019</i>				
<i>5.57</i>				

Plex 9/18/19 1:42 PM Dart.lajeunesse.marie

9/18/2019

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-NV5000 - 1	M4140N-B1.500X1.5000	2	0	0
Part Specifications				
Specifications could not be found.				

Plex 9/18/19 1:42 PM Dart.lajeunesse.marie

8 7 6 5 4 3 2 1

D

C

B

D

C

B

R0.03
ALL AROUND EDGE
TYP

3/4-16 UNF
THRU

Ø
SYM

Ø
SYM

0.725
[18.42]

1.28
[32.39]

5.37
[136.40]

0.270
[6.86]
TYP

0.608
[15.43]

FULL R
TYP

Ø1.340
[34.04]
TYP

0.500
[12.70]
TYP

R0.50
2 PL

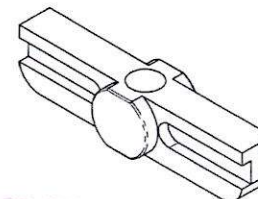
Ø
SYM

2.000
[50.80]
TYP

RBE105-14181W4-11 PULLER

NOTES:

- 1) MATERIAL: 4140 (28-32 RC)
- 2) HEAT TREAT: N/A
- 3) FINISH: BLACK OXIDE PER MIL-C-13924 CLASS 1 THEN APPLY A THIN LAYER OF OIL / CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309 TYPE III OR MIL-C-23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS
- 4) TOLERANCES: X.X = ± 0.1 " / ± 1 "
X.XX = ± 0.01 " / ± 0.5 "
X.XXX = ± 0.005 " / ± 0.1 "
X.XXXX = ± 0.0005 " / ± 0.05 "
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = ± 0.005 "
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 200893 MJS
19-09-18

0.285
[7.24]
TYP

Ø
SYM

1.22
[30.86]

DESIGN VM
DRAWN VM
CHECKED KPT
MFG. APPR. JFC
APPROVED VJP
DATE 2019-09-09

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

TOOL PART #
RBE105-14181W4

TITLE
NEEDLE BEARINGS EXTRACTOR

REV. C

SHEET 3 OF 6
SCALE NTS

COPYRIGHT © 2019 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE LTD

8 7 6 5 4 3 2 1

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045162**



Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

Attention: Grenon, Sylvie

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045162

PO Date: 11/20/19

Due Date: 11/28/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

E-MAILED
2019-11-22

Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	201020	RBE117-15004W6-17	RBE117-15004W6 Rev B	Ring -Issue P/O; -Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. -Material type; O1 -Certificate of Conformity is required	Firmed	-	11/28/19	7 pcs	0 pcs	7 pcs	\$4.25/pcs	\$29.75

X7

NOV 28 2019

DP

11/22/2019

PURCHASE ORDER



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045162



Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	200893	RBE105-14181W4-11	RBE105-14181W4 Rev C	Puller -Issue P/O; -Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. -Material type; 4140 -Certificate of Conformity is required	Firmed	-	11/28/19	5 pcs	0 pcs	5 pcs	\$5.50/pcs	\$27.50
3	200363	RB500N9506-1M-1	RB500N9506-1M Rev 5	Nut Socket -Issue P/O; -Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. -Material type; 4140 -Certificate of Conformity is required	Firmed	-	11/28/19	5 pcs	0 pcs	5 pcs	\$6.15/pcs	\$30.75

DAS
40
9-89

NOV 29 2019

NOV 28 2019

11/22/2019

PURCHASE ORDER



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045162



Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	201019	RBE117-15004W6-15	RBE117-15004W6 Rev B	Spacer Ring -Issue P/O; -Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. -Material type; O1 -Certificate of Conformity is required	Firmed	-	11/28/19	7 pcs	0 pcs	7 pcs	\$1.95/pcs	\$13.65
					X7		NOV 28 2019				DP	
197508	RBE-350DAMPER	RBE-350DAMPER Rev 1	Damper Spanner Wrench -Issue P/O -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	-	11/28/19	11 pcs	0 pcs	11 pcs	\$2.35/pcs	\$25.85	
					X11		NOV 28 2019				DP	
197344					Firmed	DP	11/28/19	12 pcs	0 pcs	12 pcs	\$2.35/pcs	\$28.20
Sub Total:								23	0	23		\$54.05
Grand Total:											\$155.70	

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing (Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/22/19 11:49 AM Dart.Guerin.Kimberley

**Certificat de Conformité / Certificate of Compliance**
(024310-2)

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
Tel: 514-335-3666 Fax: 514-335-3868
www.groupaltech.com

Bon de Livraison / Packing Slip**024310 - 2**

Livré à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON, K6A1K7
CANADA
Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON, K6A1K7
CANADA
BUYER:

Date expédition Ship date		Créé Par Generated By	Transport / No de Compte Courier / Acc. No.		Bon de commande Client Customer Purchase Order No.			
28-Nov-2019		Jigar Patel			POHB045162			
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Quantités / Quantities Qté NC/ NC Qty	Qté Scrap/	À venir/ Back Order
2	RBE105-14181W4-11 Rev.	RBE105-14181W4 C OXIDE-BLK & OIL [OXIDE BLACK AND OIL] MIL-C-13924C CLASS 1 APPLY THIN LAYER OF OIL/CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309, TYPE - 3 OR MILL - C23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS OIL	OXIDE-BLACK CH	5	5	0	0	0

DA
40
9-8

RECEIVED
NOV 29 2019
DART AEROSPACE LTD.

**DAS
40
9-89**

RECEIVED
NOV 29 2019
DART AEROSPACE LTD.

Notes Additionnelles / Additional Notes

1 BOX

Epaisseur réelle
Actual ThicknessInspecteur Qualité
Quality InspectorRéçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
Our financial and legal responsibility will not be higher than the amount of invoice.